

REMARKS

This communication is submitted in response to the Office Action of November 2, 2004.

Claims 1-17, 19-24, 28-39, 51-56 and 59-63 are pending in the subject application with claim 6 being currently amended and claim 57 being currently canceled. Claims 25-27, 40-50 and 58 were previously canceled. Claims 2, 4, 23, 24, 33 and 34 stand withdrawn from consideration by the Examiner. Claims 1-5, 7-17, 21, 38, 39, 53-55, 62 and 63 have not been changed relative to their immediate prior version.

Reconsideration of the subject application is respectfully requested in view of the foregoing amendments and the following remarks.

The rejection of claim 57 under 35 USC §112 as being indefinite is respectfully traversed; however, to facilitate allowance of the subject application, claim 57 has been canceled, it being noted that independent claim 56 is broader than claim 57 and covers a plurality of handles as recognized by the Examiner in Paragraph 3 of the Office Action.

The objection to claim 6 has been overcome by amending the claim as noted above to place a space between "1" and "wherein".

The rejection of claims 1, 3, 5-17, 19, 22, 28-32, 35, 39, 51-56 and 59-63 over Ohayon in view of Watanabe is respectfully traversed for the reasons set forth in the amendment filed August 5, 2004 with respect to the deficiencies of the teachings of Ohayon and the failure of Watanabe to provide a teaching to overcome these deficiencies as discussed hereinafter.

Independent claim 1 recites “a window frame; a shattered window pane disposed in said window frame and having an exposed exterior surface and an exposed interior surface circumscribed by said window frame; and a solidified layer of unifying material adhesively bonded by itself directly to a substantial portion of at least one of said exterior surface or said interior surface, said layer of unifying material being capable of being sprayed onto said window pane in a fluidic form and of solidifying on said window pane to adhesively bond itself to said window pane, said solidified layer of unifying material and said window pane bonded thereto forming an integral, rigid cohesive mass in which said shattered window pane is structurally united by said unifying material, said cohesive mass being removable from said window frame as one or more integral and unitary pieces.” The totality of the stabilized window structure recited in independent claim 1 is not taught or suggested by Ohayon or by Watanabe.

In the Office Action, the mirror housing 32, 64, the damaged mirror glass 14, 56, and the adhesive tape 12 of Ohayon are identified as, respectively, corresponding to the window frame, the shattered window pane, and the layer of unifying material recited in independent claim 1. However, it is submitted that the Examiner has overlooked critical distinctions between the teachings of Ohayon and the claimed invention and has interpreted Ohayon beyond the reasonable scope of its disclosure using impermissible hindsight made possible only by the present invention. The automobile side view mirror glass 14, 56 to which Ohayon pertains is commonly known as comprising a mirror of relatively small size surface area and light weight. The mirror glass 14, 56 is mounted by the mirror housing 32, 64 such that the interior surface of the mirror glass is not exposed and, in the case of housing 32, the interior surface of mirror glass 14 is

actually adhesively secured to a carrier tray 36 of the housing. The adhesive tape 12 is explicitly defined by Ohayon as comprising a shatterproof or impact-resistant tape, such as paper, plastic or fabric, having a surface to which a layer of adhesive is applied (page 11, lines 23-33). The only purpose for the adhesive layer of tape 12 is to serve as a medium to attach the shatterproof or impact-resistant tape material to the damaged mirror glass 14,56, thereby allowing the mirror glass to be shattered into small pieces by a hammer impacting the shatterproof or impact-resistant material. To this end it is noted that Ohayon relates to the removal of “sandwiched” glass particles as opposed to shattered glass having exposed interior and exterior surfaces recited in claim 1.

The tape 12 of Ohayon is disclosed as being manually applied to the damaged mirror glass 14, 56 by forcefully pressing the tape 12 against the damaged mirror glass using the fingers. Accordingly, it is essential to Ohayon that the damaged mirror glass be either secured to the carrier tray 36 as shown in Figs. 1 and 2 for damaged mirror glass 14 or that the damaged mirror glass not be shattered to the point of losing its structural integrity or connectivity as is necessary for damaged mirror glass 56 shown in Figs. 5 and 6. Otherwise, the damaged mirror glass would collapse or cave in due to the manual pressure exerted on it as the tape 12 is pressed against the damaged mirror glass. In addition to the obvious logical inferences, the explicit teachings of Ohayon make it clear that the application of tape 12 to a mirror that is already shattered to the point of losing its structural integrity or connectivity is not contemplated, because Ohayon requires in the case of both damaged mirrors 14 and 56 that the damaged mirrors be intentionally forcefully shattered into small pieces (by a hammer impacting

the tape 12) after the tape 12 has been applied thereto.

The claimed invention has no such limitations with respect to the size and weight of window panes which may be stabilized, with respect to the need for a carrier tray, and with respect to the extent to which the window panes may have lost structural integrity or connectivity. Indeed, the majority of window panes found in buildings are of significantly greater size and weight than automobile side view mirrors. One seeking to solve the problem of safely stabilizing or removing any types of shattered window panes without limitations on size, weight, window structure and/or extent of damage would not find a solution in Ohayon. The teachings of Ohayon are merely a variation of the prior and ineffective hammering and taping approaches to stabilizing or removing shattered glass as discussed in applicant's specification on page 3, line 6 - page 4, line 18.

Watanabe relates to sound proofing/insulating effects with the use of a porous membrane having a sticking tendency that can be sprayed on an object site of demolition. It is clear that Watanabe does not relate to applying a "porous membrane" to shattered glass but rather only to an object to be demolished thereafter. That is, Watanabe is applied before the glass breaks, not after, and Watanabe does not suggest that the porous membrane will hold glass together. Watanabe merely reduces the amount of dispersion and noise related to broken glass. Accordingly, it would not be obvious to one of ordinary skill in the glazing art to use the "porous membrane" to stabilize glass. Furthermore, use of a polymeric foam in place of the tape of Ohayon would not be obvious because Ohayon's system would not work.

In addition to the foregoing distinctions, there are additional salient differences between the stabilized window structure recited in claim 1 and the structure that results

from the teachings of Ohayon, whether in combination with Watanabe or not, when the tape 12 is applied to damaged mirror glass 14,56. As noted above, Ohayon requires that the tape 12 be made of a shatterproof or impact-resistant tape having a surface provided with a layer of pressure-sensitive adhesive. Conventional pressure-sensitive adhesive tapes, from which Ohayon does not distinguish tape 12, are commonly known to have the adhesive applied thereon in a very thin layer and are commonly known to be highly flexible and of relatively low strength and adhesion. In Fig. 7 of Ohayon, for example, the adhesive surface on mirror glass 52 is so thin as to not even be visible leading away from any use of a polymeric foam of a mass of unifying material. Ohayon makes no distinction between the adhesive surface of tape 12 and the adhesive surfaces of handle base 20 and spacer strips 42, which are disclosed by Ohayon as being removable and, therefore, of low adhesion. If the tape 12 was capable of bonding to the damaged mirror glass with sufficient strength to form an integral cohesive mass in which the damaged mirror glass is structurally united by the tape for removal from the mirror housing, there would be no reason to require that the damaged mirror glass be thereafter intentionally smashed into small pieces, especially since the requirement for intentional smashing of the mirror glass disadvantageously involves additional structural and operational complexity.

In addition to failing to disclose the type of bond between tape 12 and mirror glass 14,56 needed to form a removable, integral cohesive mass in which the damaged mirror glass is structurally united, Ohayon, whether combined with Watanabe or not, fails to disclose the formation of an integral, rigid cohesive mass applied to a damaged mirror. Also it is necessary that the structure formed by Ohayon be flexible to permit

progressive insertion of a tool behind the mirror glass to incrementally pry the structure away from the carrier tray 36 and peel it away from the mirror housing as required by the teachings of Ohayon. In contrast to the layer of unifying material bonded to the window pane to form a removable, integral, rigid cohesive mass as recited in claim 1, any flexible adhesive substance adhered to the damaged mirror glass 14,56 of Ohayon cannot be considered as forming a removable, integral, rigid cohesive mass in which the mirror glass is structurally united in the same sense as the removable, integral, rigid cohesive mass of applicant's invention. Accordingly, there are no teachings or suggestions whatsoever in either Ohayon and/or Watanabe to support any conclusion that an adhesive substance is bonded to the mirror glass to form a removable, integral, much less rigid, cohesive mass in which the mirror glass is structurally united. No integral, rigid cohesive mass or structural unity between the adhesive substance and the damaged mirror glass does or can exist where the adhesive substance adheres to the mirror glass with a low adhesive force and is in fact removable as disclosed by Ohayon.

Claim 1 calls for the same layer of unifying material to be adhesively bonded by itself directly to the window pane, to be capable of being sprayed onto the window pane in fluidic form and of solidifying on the window pane to adhesively bond itself to the window pane, and to form an integral, rigid cohesive mass with the shattered window pane in which the shattered window pane is structurally united by the layer of unifying material. The tape 12 of Ohayon is a multi-layer element comprising the layer of shatterproof or impact-resistant material and the layer of adhesive, and neither layer can be considered as meeting the limitations recited for the layer of unifying material

nor could the porous membrane of Watanabe.

Dependent claims 2 and 4 were withdrawn from consideration by the Examiner but should be allowable along with independent claim 1. With respect to dependent claim 4, it is noted that the structural arrangement disclosed by Ohayon cannot be applied to a window pane disposed in a window frame in a building since the invention disclosed by Ohayon would be inoperable in conjunction with the relatively large and heavy window panes found in buildings.

Dependent claims 6-17 recite specific materials for the unifying material, none of which are disclosed or made obvious by the teachings of Ohayon and/or Watanabe. Contrary to the assertion made by the Examiner, one skilled in the art would not be motivated to employ the materials recited in dependent claims 6-17 as the adhesive layer of tape 12. As discussed above, the adhesive layer disclosed by Ohayon for tape 12 does not, cannot and is not intended to serve as a unifying material to form an integral, rigid cohesive mass in which the damaged mirror glass is structurally united nor is the porous membrane of Watanabe. The use of polymeric foam in particular for the adhesive layer of tape 12 would not be obvious from Ohayon or Watanabe and is actually discouraged by the teachings of Ohayon and/or Watanabe, since the use of a foam layer adhesive would provide a cushioning effect making it more difficult to intentionally smash the mirror glass with a hammer impacting the shatterproof or impact-resistant layer to demolish the structure. Also, a solidified polymeric foam as the adhesive layer for tape 12 would be too rigid to permit a tool to be inserted behind the mirror glass 14 to forcefully pry it away from the carrier tray 36. The structure and intrinsic physical response to applied forces for the tape 12 are completely different

from those of the claimed layer of unifying material and cohesive mass, and the specific unifying materials recited in the claims cannot be considered interchangeable with the pressure-sensitive adhesive or the shatterproof or impact-resistant material disclosed by Ohayon and/or Watanabe. Accordingly, claims 6-17 are submitted to be clearly patentable over Ohayon and Watanabe for the additional limitations recited therein as well as being allowable with independent claim 1.

Dependent claim 19 recites the unifying material being disposed within a crack in the shattered window pane and forming a structural bond at the crack when the unifying material solidifies. Neither Ohayon nor Watanabe discloses adhesive lacks any adhesive substances with properties which would enable the adhesive to be disposed within a crack in the mirror glass, much less form a structural bond at a crack. Indeed, it is the intention of Ohayon not to form a structural bond at any cracks in the mirror glass because the formation of a structural bond in cracks in the mirror glass would defeat the purpose of intentionally smashing the mirror glass into small pieces after the tape 12 is applied.

Claims 23 and 24 depend from claim 1 and were withdrawn from consideration by the Examiner. Since independent claim 1 is now allowable, dependent claims 23 and 24 should also be allowable therewith. With respect to dependent claim 23, it is noted that Ohayon and Watanabe do not teach or suggest a layer of unifying material including a plurality of individual sub-layers arranged one on top of the other. With respect to independent claim 24, none of the references cited and applied by the Examiner teach or suggest a layer of unifying material including first and second layers of unifying material respectively bonded to the exterior surface and the interior surface

of a shattered window pane. In particular, the structural arrangement disclosed by Ohayon prevents any layer of unifying material from being applied to an interior surface of the damaged mirror glass, the interior surface being unexposed and completely inaccessible within the mirror housing.

Independent claim 28 relates to a method of stabilizing and removing a shattered window pane from a window frame and recites “spraying a layer of fluidic unifying material onto a substantial portion of at least one of an exterior surface ... or an interior surface of the shattered window pane ...; allowing the fluidic unifying material to solidify on the window pane to adhesively bond the layer of unifying material to the window pane to structurally unite the shattered window pane and form a cohesive mass including the window pane and the layer of unifying material bonded thereto; and removing the cohesive mass from the window frame”. The steps recited in claim 28 are not disclosed or suggested by either Ohayon or Watanabe and are not inherent to any structural arrangement derived from the teachings of Ohayon and/or Watanabe.

Ohayon involves the application of pre-formed adhesive tape 12 to damaged mirror glass using direct forceful pressure by manually pressing the tape against the mirror glass with the fingers. Ohayon fails to recognize the potential for any unifying material to be sprayed onto the damaged mirror glass in fluidic form and to solidify on the mirror glass to adhesively bond thereto and structurally unite the damaged mirror glass in a cohesive mass that can be removed from the mirror housing. Otherwise, there would be no need for Ohayon to require the dangerous step of intentionally smashing the mirror glass after the tape 12 has been applied. Moreover, Ohayon fails to perceive of any unifying material adhesively bonded to the damaged mirror glass as a result of

allowing a fluidic unifying material to solidify on the mirror glass, and Watanabe does not relate to removal of a cohesive mass from a window frame. Accordingly, independent claim 28 is submitted to be clearly patentable over Ohayon and Watanabe, and should be allowable along with dependent claims 29-35 and 39.

Dependent claims 30-32 recite the step of spraying in conjunction with specific unifying materials. As discussed above in connection with dependent claims 6-17, these specific materials cannot be considered obvious in view of Ohayon or Watanabe. In particular, the step of spraying involving polymeric foam is not obvious over Ohayon, is actually incompatible with the teachings of Ohayon for the reasons explained above and is not disclosed by Watanabe. Accordingly, dependent claims 30-32 are submitted to be clearly patentable for the additional limitations recited therein as well as being allowable with claim 28.

Claims 33 and 34 depend from claim 28 and were withdrawn from consideration by the Examiner. Since claim 28 is now allowable, claims 33 and 34 should also be allowable. With respect to claim 33, it is noted that none of the references cited and applied by the Examiner teach or suggest a step of spraying involving spraying a layer of fluidic unifying material as a plurality of sub-layers sequentially sprayed one on top of the other. With respect to claim 34, none of the references cited and applied by the Examiner teach or suggest a step of spraying involving spraying first and second layers of fluidic unifying material respectively onto the exterior surface and the interior surface of a shattered window pane. As noted above, in Ohayon it is impossible to spray a layer of fluidic unifying material on an interior surface of the mirror glass since the rearward or interior surface of the mirror glass is enclosed by the mirror housing and not

exposed.

Independent claim 51 recites “spraying a layer of fluidic unifying material onto a substantial portion of at least one of an exterior surface ... or an interior surface of the shattered window pane ...; allowing the layer of fluidic unifying material to solidify on the window pane to adhesively bond the layer of unifying material to the window pane with sufficient strength to structurally unite the shattered window pane and form a rigid cohesive mass including the shattered window pane and the solidified layer of unifying material bonded thereto; and leaving the cohesive mass in place to stabilize the window structure for a desired length of time.” The method disclosed by Ohayon involves pressing tape 12 against the damaged mirror glass with direct manual pressure on the mirror glass whereas the method claimed in claim 1 involves spraying a layer of fluidic unifying material onto a shattered window pane, it being noted that Watanabe sprays a porous membrane prior to demolition. Accordingly, independent claim 51 is submitted to be clearly patentable over Ohayon and Watanabe considered singly or in any reasonable combination. Claims 52-55 depend from claim 51 and should be allowable therewith.

With respect to dependent claims 53-55, it is noted that both Ohayon and Watanabe fail to disclose a method to prevent fragments of a shattered window pane from becoming loose, to prevent a shattered window pane from collapsing or to restore sealing functionality to a shattered window pane. The low-strength, low-adhesion tape 12 of Ohayon cannot be used to perform any of the types of stabilization recited in claims 53-55, and the porous membrane of Watanabe also cannot perform the types of stabilization recited in claims 53-55. Accordingly, dependent claims 53-55 are

submitted to be clearly patentable over Ohayon and Watanabe.

Independent claim 56 recites “a window pane having a perimeter mounted in a window frame, said window pane having an exposed exterior surface and an exposed interior surface circumscribed by said frame; a layer of polymeric foam adhered to at least a substantial portion of at least one of said exterior surface or said interior surface to provide protection to said window pane, said foam and said window pane forming a protected window pane; and one or more handles secured to said protected window pane by adhesion of said one or more handles with said foam, wherein the adhesion between said foam and said window pane and between said one or more handles and said foam is provided by said foam itself and is of sufficient strength to allow said protected window pane to be removed from said frame by manually pulling on said one or more handles without detaching said foam from said window pane.”

Independent claim 60 recites “applying a layer of fluidic unifying material to at least one of an exterior surface ... or an interior surface of the shattered window pane ... said step of applying be accomplished by spraying the fluidic unifying material on the at least one of the exterior surface or the interior surface without applying pressure to the shattered window pane other than the pressure of the fluidic unifying material itself; allowing the layer of fluidic unifying material to solidify to bond the layer of unifying material to the window pane to structurally unite the shattered window pane and form a rigid cohesive mass ...; and removing the cohesive mass from the window frame as one or more integral and unitary pieces.” As explained above, it would not be obvious to use the porous membrane of Watanabe with Ohayon since neither Ohayon


nor Watanabe contemplates removing a cohesive mass from a window frame.

Dependent claim 61 calls for adhesively bonding the layer of unifying material to the window pane with a permanent bond, and is clearly patentable over Ohayon and/or Watanabe for the additional limitations recited therein as well as being allowable with independent claim 60.

The rejection of the claims over Ohayon in view of Watanabe is a clear misuse of hindsight particularly since there is no motivation to combine the two references. Ohayon relates to replacing mirrors whereas Watanabe relates to sound proofing and preparation of an object prior to demolition of the object.

In light of the foregoing, all of the claims in the subject application are submitted to be in condition for allowance. Action in conformance therewith is courteously solicited. Should any issues in the subject application remain unresolved, the Examiner is encouraged to contact the undersigned attorney.

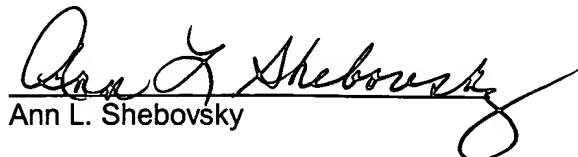
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